

SUPPORT FOR THE AMENDMENTS

Claims 2-4 were previously canceled.

Claims 14 and 15 are canceled herein.

Claim 1 has been amended.

The amendment of Claim 1 finds support in previously pending Claim 15 and the specification at page 8, lines 1-9.

No new matter has been added by the present amendment.

REMARKS

Claims 1, 3-13, and 16-22 are pending in the present application.

The rejections of: **(a)** Claims 5 and 7 under the doctrine of obviousness double patenting over Claims 1-2 and 5-6 Herrmann et al (US 6,607,565) in view of Mischke et al (US 5,508,389), **(b)** Claims 1, 5-12, and 14-22 under 35 U.S.C. §103(a) over Herrmann et al (US 6,607,565) in view of Mischke et al (US 5,508,389) or Buhler et al (PCT/EP01/07136), **(c)** Claims 1, 5-12, and 14-22 under 35 U.S.C. §103(a) over Siegel et al (US 6,117,224) in view of Mischke et al (US 5,508,389) or Buhler et al (PCT/EP01/07136), **(d)** Claim 13 under 35 U.S.C. §103(a) over Siegel et al or Herrmann et al in view of Mischke et al or Buhler et al and further in view of Siemensmeyer et al (U.S. 6,537,331), **(e)** Claims 1 and 5-12, and 14-22 under 35 U.S.C. 103(a) over Kazuo et al (JP 05-255626) in view of Herrmann et al (US 6,607,565) and Mischke et al (US 5,508,389) or Buhler et al (PCT/EP01/07136), and **(f)** Claim 13 under 35 U.S.C. §103(a) over Kazuo et al in view of Mischke et al or Buhler et al and further in view of Siemensmeyer et al (U.S. 6,537,331) are obviated in part by amendment and traversed in part.

Applicants submit that, as is recognized by the Examiner, neither Herrmann et al nor Siegel et al disclose a composition that includes component B with an average molecular weight of at least 11 000 g/mol. The Examiner cites Mischke et al and Buhler et al as allegedly solving this deficiency.

Mischke et al is cited as allegedly disclosing that dispersants from a condensation product of naphthalenesulfonic acid and formaldehyde with a molecular weight of 350 to 35,000 are well known. While Buhler et al is cited as allegedly disclosing additives such as anionic dispersants from a condensation product of naphthalenesulfonic acid and

formaldehyde with a molecular weight of 1000 to 100,000 are well known. Siemensmeyer et al disclose a dye preparation with the azo dye of formula (III), but this does not compensate for the deficiencies in any of the cited references.

Putting aside Applicants prior arguments as to non-analogous art and the lack of combinability of the references, Applicants submit that the combination of references fails to support a case of obviousness with respect to the claimed invention. Specifically, the references fail to disclose or suggest the superior advantages flowing from the specifically claimed molecular weight range of the condensation product of 11,000 g/mol to 20,000 g/mol. Applicants submit that it is more than a mere optimization to choose a molecular weight range of the condensation product of 11,000 g/mol to 20,000 g/mol. This is especially true as Mischke et al only disclose a very broad range of from 350 to 35000 g/mol and Buhler et al disclose a range of 1000 to 100,000 g/mol, and do not suggest the suitability of the condensation products as dispersants for water-insoluble disperse dyes free of ionic groups.

To further evidence the advantages flowing from the specifically claimed molecular weight range of the condensation product of 11,000 g/mol to 20,000 g/mol, Applicants **submit herewith** a Declaration under 37 C.F.R. §1.132 executed by Dr. Karl Siemensmeyer (the Siemensmeyer Declaration). In the Siemensmeyer Declaration, experiments were performed using a naphthalenesulfonic acid-formaldehyde condensation product having an average molecular weight of 12 000 g/mol.

In Example I of the Siemensmeyer Declaration, the dispersing properties of the naphthalenesulfonic acid-formaldehyde condensation product having an average molecular weight of 12 000 g/mol (= dispersant 6) was determined by a grinding test, similar to Example 6 of the present application which used dispersant 4 having an average molecular weight of 16 000 g/mol (see page 12, lines 10-12 and page 14, line 13 to page 15, line 4 of

the specification). The grinding test yielded similar good results as for dispersant 3 having an average molecular weight of 9 000 g/mol and dispersant 4, having a molecular weight of 16 000 g/mol. After aging of the concentrate at 60 °C for 3 days, minimal particle growth was observed.

In Example 2 of the Siemensmeyer Declaration, an ink was produced from the concentrate of Example 1, and the ink obtained was printed by an EPSON 3000 Stylus Color Piezo head printer, in the manner of Example 8 of the present application (see page 15, lines 18-30). Similar good results were obtained with the ink of Example 2 of the Siemensmeyer Declaration, as compared to the ink produced according to Example 8 of the present application. Similar good results as for dispersant 4 used in Example 8 of the application were obtained. Accordingly, the prints obtained had excellent line crispness, there was no nozzle failure in sustained use, and the flow properties of the ink were excellent. After aging of the ink at 60 °C for 5 days, minimal separation of disperse dye from the dispersion and particle growth were observed.

Thus, Examples I and 2 of the Siemensmeyer Declaration show that dispersant 6 having an average molecular weight of 12 000 g/mol has similar good dispersing properties than dispersant 4 in the present specification having an average molecular weight of 16 000 g/mol. Therefore, Applicants submit that the claimed invention is not obvious in view of the combined disclosures of Siegel et al, Hermann et al, Kazuo et al, Mischke et al, Buhler et al and Siemensmeyer et al.

In view of the foregoing, withdrawal of these grounds of rejection is requested.

Applicants submit that the present application is in condition for allowance. Early notification to this effect is respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon

A handwritten signature in dark ink, appearing to read 'V. Shier', with a long horizontal flourish extending to the right.

Vincent K. Shier, Ph.D.
Registration No. 50,552

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413-2220
(OSMMN 08/03)